

Groundfish Harvest Specifications and Accountability Measures: Definitions and Use in Management

The Pacific Fishery Management Council (Council) is required to set groundfish [harvest specifications](#) to ensure that fishery conservation objectives are met. The most well-known harvest specifications are the overfishing limit (OFL), acceptable biological catch (ABC), and annual catch limit (ACL). However, to achieve, but not exceed these specifications, the Council can employ the use of accountability measures (e.g., set-asides, harvest guidelines (HG), and annual catch targets (ACT)). These measures also act as a harvest target for the trawl and non-trawl fisheries (i.e., allocations) or to further reduce the risk of exceeding harvest specifications. These aspects of management are developed in the biennial groundfish harvest specifications and management measures process, which is detailed in the Pacific Coast Groundfish Fishery Management Plan (FMP).

Unfortunately, these specifications are often conflated with one another due to their similarities. This has led to confusion within the Council process regarding their meaning and the required or available response when a specification or accountability measure is exceeded or projected to be exceeded. The goal of this paper is to provide clarity on these terms and the Council's available or required responses. This paper is a companion piece to the Council's [Fact Sheet #8](#).

1. *Harvest Specifications (OFL, ABC, and ACL)*

The Magnuson-Stevens Act requires OFLs, ABCs, and ACLs for all managed stocks. These specifications and how they are derived are detailed in [Chapter 4 of the FMP](#), [Chapter 4 of the FMP](#), which is incorporated by reference, though summarized here, as well as in this [Fact Sheet](#). Figure 1 shows a generalized schematic of the reduction of the OFL to the ACL.

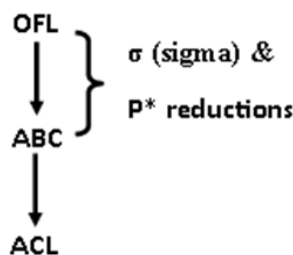


Figure 1. Harvest specification hierarchy: OFL to the ACL.

Overfishing Limit (OFL)

The OFL is the best estimate of the maximum amount of a stock that can be caught in a year without resulting in overfishing derived from an assessment. Setting OFLs is a scientific (as opposed to policy) determination made by the Scientific and Statistical Committee (SSC). OFLs are set for every actively managed stock or stock complex.

The reduction from the OFL to the ABC is based on the ABC control rule which includes an estimate of scientific uncertainty (sigma or σ) and a policy decision on the risk of overfishing (P^*). Sigma is defined as the uncertainty around the estimated OFL in the final year of the assessment model and is based on the category of the assessment (i.e., how data rich or poor the assessment is). Sigma also increases over time for most assessments due to increasing uncertainty in the OFL estimates the farther it is from the assessment. Per the Groundfish Fishery Management Plan, P^* is bounded at a maximum of 0.45 and represents the Council's risk tolerance that the ABC is being set higher than what the OFL should have been or that catching the ABC will result in overfishing of the stock (biologically, not legal definition of overfishing- i.e., catch exceeding the prescribed OFL). These two factors result in a prescribed reduction or buffer that the ABC can, but is not required to, be reduced to an ACL in order to account for concerns regarding conservation objectives, management uncertainty, etc.

Allowable Biological Catches

The ABC is a harvest specification established by the Council with advice from the SSC that incorporates scientific uncertainty in the estimate of OFL. The ABC to ACL reduction is a policy decision, and for many stocks the Council has adopted a harvest control rule where the ABC is set equal to the ACL (i.e., $ABC=ACL$).

Annual Catch Limit

The ACL is a level of annual catch, which counts all sources of annual fishing-related mortality, including discard mortalities, and is the harvest threshold used to manage west coast fisheries. It can be set less than or equal to the ABC in consideration of conservation objectives, socioeconomic concerns, management uncertainty, ecological concerns, and other factors.

2. Accountability Measures

The Council is required to use accountability measures to prevent overfishing and respond to ACL overages. However, the Council has the discretion on how to establish allocations, set-asides, HGs, and/or ACTs for a stock or stock complex. While each of these measures are used to reduce the risk of exceeding a harvest specification, each has different meanings in terms of regulatory action. The National Marine Fisheries Service (NMFS) provided a detailed paper on accountability measures (AMs) in [Agenda Item H.4.a, Supplemental NMFS Report 2, March 2020](#).

Harvest Guideline

HGs are harvest objectives. As noted in the FMP:

An HG is a specified numerical harvest objective which is not a quota. Attainment of a HG does not require closure of a fishery.

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All managed groundfish species and complexes have a fishery HG set at the value of the ACL minus the off-the-top deductions. Additionally, some stocks have sector-specific HGs. For example, yelloweye rockfish has both a fishery HG as well as non-trawl and recreational HGs. HGs are precautionary measures used to reduce the risk that an ACL or allocation is exceeded. Unlike formal allocations ("hard caps"), HGs are considered more of a "soft cap" and do not require the same action as if an allocation was projected to be exceeded. It is within the Council's

discretion whether to take any inseason actions if an HG is exceeded or projected to be exceeded based on other fishery's sectors mortality.

Annual Catch Target

ACTs can be applied to ACLs, HGs, and/or to a complex's component stock ACLs. ACTs are considered more of a "soft cap" and do not require action if exceeded or projected to be exceeded and ACTs can be set at either the fishery or sector level. The FMP defines ACTs as:

ACT is a management target set below the ACL and may be used as an AM in cases where there is uncertainty in inseason catch monitoring to ensure against exceeding an ACL. Since the ACT is a target and not a limit it can be used in lieu of harvest guidelines or strategically to accomplish other management objectives. Sector-specific ACTs can also be specified to accomplish management objectives.

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ACTs can define a specific accountability measure that is defined by the Council when the ACT is attained or projected to be attained. The Council currently has ACTs for several rockfishes, including the California stock of quillback rockfish, however, the ACTs do not result in a specific management action if attained. Similar to when an HG is exceeded, the Council has discretion as to the management response.

Allocations

The FMP (Section 6.3) provides a very generic definition of allocation.

Allocation is the apportionment of an item for a specific purpose or to a particular person or group of persons. Allocation of fishery resources may result from any type of management measure but is most commonly a numerical quota or HG¹ for a specific gear or fishery sector. Most fishery management measures allocate fishery resources to some degree, because they invariably affect access to the resource by different fishery sectors by different amounts. These allocative impacts, if not the intentional purpose of the management measure, are considered to be indirect or unintentional allocations. Direct allocation occurs when numerical quotas, HGs, or other management measures are established with the specific intent of affecting a particular group's access to the fishery resource.

FMP 6.3

The Council has several different types of allocations, each with different management and accountability measures associated with them; FMP Section 6.3 provides detail. Trawl and non-trawl fisheries are allocated specific amounts of yield from the fishery HG for certain stocks and stock complexes. This includes allocations in the FMP for sablefish north of 36° N. lat. and the Amendment 21 trawl and non-trawl allocations. The Council also implements biennial trawl and non-trawl allocations. In general, the allocations are considered hard caps. In that, if a sector's allocation is projected to be exceeded or exceeded, the Council considers management actions including closing the sector. Beyond the trawl/non-trawl allocations, there can be within trawl and non-trawl allocations.

¹ The inclusion of "HG" in this definition of allocation is because it may be allocative in nature. However, HGs are an objective and not a quota, as defined below on page 3.

Set-Asides

The Council uses two categories of set-asides: ACL deductions (i.e., off the tops) and at-sea set-asides which are specific to the at-sea Pacific whiting fishery. Set-asides can be considered ‘soft-caps’ as there are no specific management measures designed to keep a fishery within the set-aside and are not managed inseason.

The FMP defines set-asides as:

Set-aside is the amount of yield of an actively managed stock or stock complex that is deducted from an ACL or sector allocation. A set-aside deducted from an ACL is designed to accommodate catch in Tribal fisheries, research fisheries, exempted fishing permit activities, and bycatch in non-groundfish fisheries. A set-aside deducted from a sector allocation is designed to accommodate catch for a portion of the sector where within-sector allocations are not specified (e.g., set-asides for the at-sea whiting sectors for many stocks are deducted from formal trawl allocations to accommodate expected bycatch).

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Off-the-top set-asides

Off-the-top set-asides, often referred to as off-the-top deductions, are referenced in the first two sentences of the above FMP citation, and come directly off of the ACL.

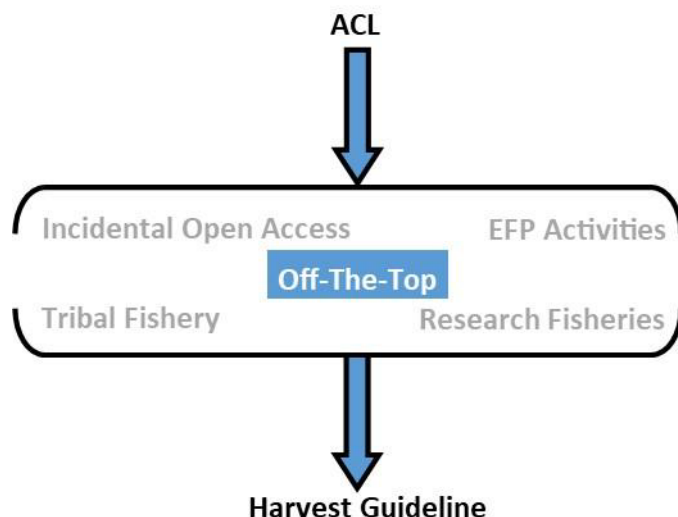


Figure 2. Off-the-top deductions from the annual catch limit (ACL) results in the harvest guideline.

The off-the-top deductions are subtracted from the ACL, resulting in the fishery HG (Figure 1). Off-the-top deductions are estimated at the beginning of each groundfish harvest specification and management measure process. Off-the-top amounts for research and incidental open access (IOA)² fisheries are generally based on a rolling 10-year maximum of research and IOA mortality ([Agenda Item E.7.a, Supplemental GMT Report 2, November 2023](#)). Tribal and EFP set-asides are based on requests. The Council does directly manage these fisheries and has not identified specific management measures in the instance where a set-aside is exceeded, with the exception that EFPs may be stopped by the NMFS if a set-aside for a species is reached. However, for the non-

² IOA fisheries do not target groundfish but incidentally catch them and are, therefore, a source of mortality.

groundfish fisheries, the total attainment of a set-aside may not be known until the following year when the annual groundfish mortality report is produced.

At-sea set-asides

At-sea set-asides are designed to account for assumed non-target groundfish mortality in the at-sea mothership (MS) and catcher-processor (CP) sectors. To account for the mortality of non-whiting groundfish, the Council created set-asides for those species, as indicated in the definition of set-asides in the FMP definition above and in regulation shown below (emphasis added specific to the at-sea reference).

“Fishery set-asides. Annual set-asides are not formal allocations but they are amounts which are not available to the other fisheries during the fishing year. For Pacific Coast Treaty Indian fisheries, set-asides will be deducted from the TAC, OY, ACL, or ACT when specified. **For the catcher/processor and mothership sectors of the at-sea Pacific whiting fishery, set-asides will be deducted from the limited entry trawl fishery allocation.** Set-aside amounts may be adjusted through the biennial harvest specifications and management measures process.” [50 CFR 660.55\(j\)](#)

At-sea set-asides are a specified amount of yield of an actively managed stock or stock complex that is deducted from the overall trawl sector allocation (Figure 2). The remainder of the trawl allocation is allocated to the shorebased individual fishing quota (IFQ) program. At-sea set-asides are currently shared between the two at-sea sectors, however, have (and could be) set for an individual sector.

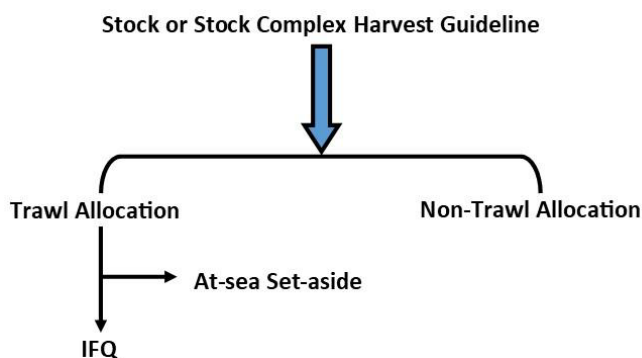


Figure 2. The at-sea set-aside relative to the fishery harvest guideline dispersal to the trawl and non-trawl groundfish fisheries

The management options for at-sea set-asides are defined at [§660.150\(c\)\(2\)\(i\)\(B\)\(1\)](#) and [§ 660.160\(c\)\(3\)\(i\)](#) for the MS and the CP sectors, respectively. In brief, inseason action on set-asides is narrow and is applicable if, at minimum, one of the three criteria is met (emphasis added):

“At-sea sector set-asides of non-whiting groundfish species will be managed on an annual basis unless **there is a risk of a harvest specification being exceeded, unforeseen impact on other fisheries, or conservation concerns**, in which case inseason action may be taken. Set-asides may be adjusted through the biennial specifications and management measures process as necessary.” [§660.150\(c\)\(2\)\(i\)\(B\)\(1\) & § 660.160\(c\)\(3\)\(i\)](#)

If none of those criteria are met, then there is no mechanism for the Council to take action. The Groundfish Management Team (GMT) may inform the Council when the sector(s) have exceeded or are projected to exceed at-sea set-asides under the groundfish inseason action item in cases that may warrant attention related to the three criteria. As described in Agenda Item E.5, Attachment 1, if the Council's intent is for the sector(s) to manage to a specific value, then set-asides may not be the appropriate management measure. Set-asides are strictly an accounting method without inseason management (unless specific criteria are met for the at-sea sectors).

PFMC
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